

All District Engineers, Walter S. Kos & Miguel d'Escoto

Michael L. Hine

Special Provision for Nonshrink Grout

September 28, 2001

This special provision was developed by the Bureau of Materials and Physical Research to update the material specification for nonshrink grout to American Society for Testing and Materials (ASTM) test methods and standards instead of Army Corps of Engineers test methods and standards.

This special provision should be included on all concrete projects.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the January 18, 2002 and subsequent lettings. The Project Development and Implementation Section will include the paper copy in the contract.

This special provision will be transferred through the E-mail System to the district offices on September 28, 2001.

80061m

NONSHRINK GROUT (BDE)

Effective: January 1, 2002

Revise Article 1024.01 of the Standard Specifications to read:

"1024.01 Requirements. Nonshrink grout shall be Grade B or C according to ASTM C 1107 except as follows:

- (a) In Table 1 Performance Requirements, the minimum one day compressive strength shall be 20,700 kPa (3000 psi) and the three day compressive strength shall not apply.
- (b) Delete Section 10. Instead, the sample material shall be obtained from a minimum of three "as sold" bags. The three bags shall be mixed together to make a composite sample. Mixing shall be done in a dry condition using a mortar mixer with sufficient capacity. Each "as sold" bag shall be a minimum of 22.7 kg (50 lb). For testing, obtain sufficient material from the composite sample to make all test specimens.

For making test specimens, mix the nonshrink grout in a mortar mixing apparatus as specified in ASTM C 305. Mixing shall begin with dry nonshrink grout material for 30 seconds. Thereafter, continue mixing and add the entire volume of water within 5 seconds. Then mix for 25 more seconds. Stop mixing and scrape the bowl sides for 15 seconds. Then mix for an additional 2 minutes and 45 seconds. Finally, check the flow according to ASTM C 827.

- (c) Delete Section 11.5.2. Instead, place a glass plate over the cube mold. Use paraffin to seal the edges of the glass plate to the mold. The plate shall overlap the cube mold a minimum 6 mm (1/4 in.). Place a minimum 2.2 kg (5.0 lb) weight on the surface of the glass. Immediately place test specimens in the moist room.
- (d) Sections 6.2, 6.3, 6.4, 8, 9, 11.3, and 11.4.2 shall not apply.
- (e) Add the following requirements.
 - (1) The initial set shall be a minimum 60.0 minutes when tested according to ASTM C 953.
 - (2) The grout shall have a minimum 80.0 percent relative dynamic modulus of elasticity when tested according to Illinois Modified AASHTO T 161, Procedure B."